Organic Integrity Database: An Overview

Draft Working Document

USDA Agricultural Marketing Service

National Organic Program

October 2014





Presentation Topics

- Overview
- Integrity Database: Users and Business Needs
- Integrity Database: Scope and Priorities
- Next Steps

National Organic Program

- **Mission:**
  Ensure the integrity of USDA organic products in the United States and throughout the world

- **Vision:**
  Organic Integrity from Farm to Table, Consumers Trust the Organic Label

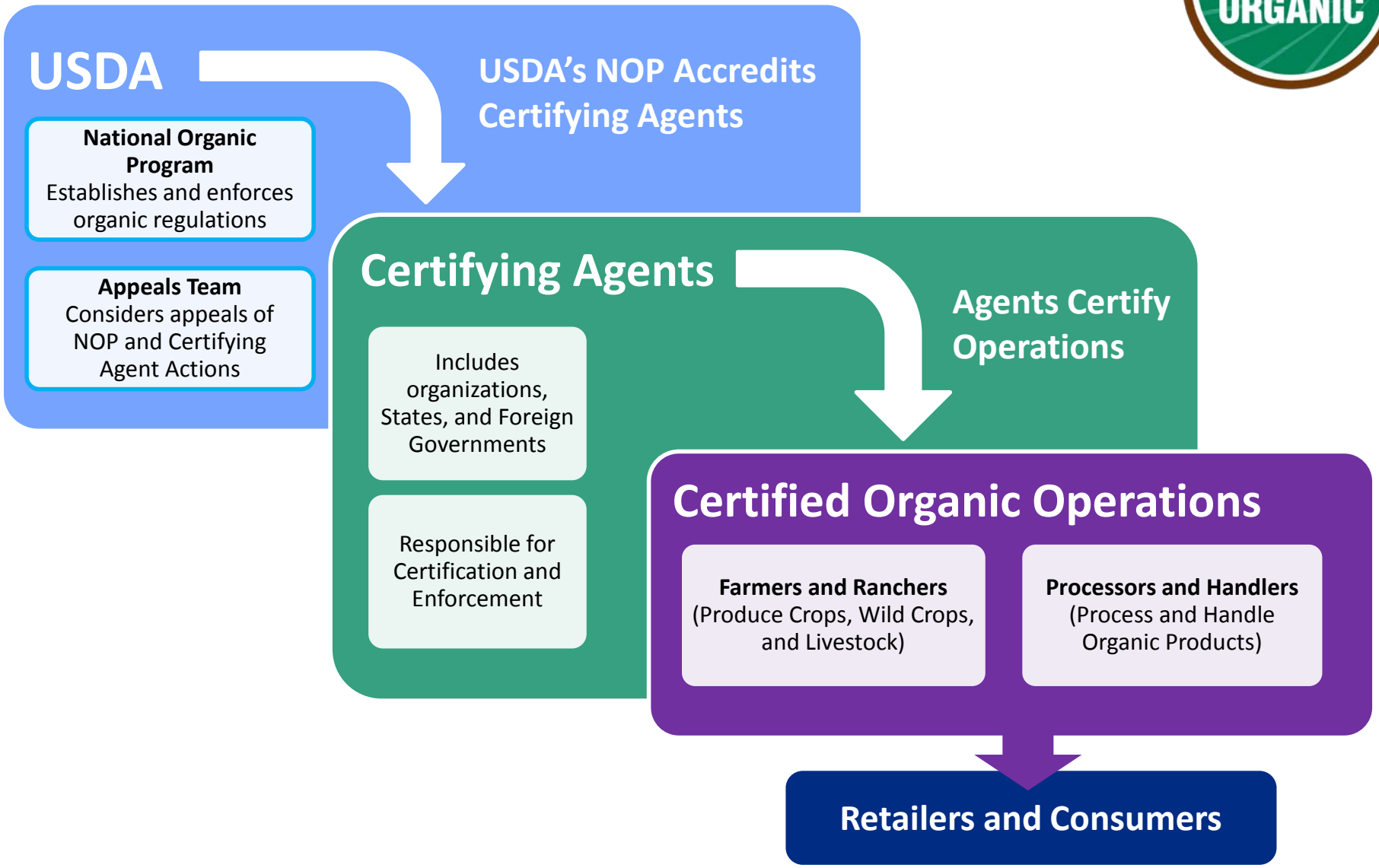
- **Core Role:**
  Implement the Organic Foods Production Act

What Does the Program Do?

- Develop and maintain organic standards
- Accredit and oversee certifying agents and California State Organic Program
- Implement and support international agreements
- Manage the National Organic Standards Board
- Administer the Organic Cost Share Program
- Investigate complaints of violations

- **Oversight Responsibility:**
  81 certifying agents worldwide
  25,000 certified organic operations

Key Stakeholder Groups



System Description: "As-Is"

- On NOP website: **List of certified organic operations**
- List of 25,000 operations updated **once a year**:
  - Out of date as soon as it is posted
  - Flat spreadsheet format with free text for commodities
  - New certified operations not added during year
  - Surrendered operations are not removed during year
  - Suspended/revoked operations marked during year as Notices are received (new in 2014)
- **Key constraints:** Variable data from 80 certifiers with very different systems; regulations limit data fields and collection frequency; no standard organic certificate. Leads to many phone calls to verify certification, and risk of fraud.

"As Is" – Posted at http://apps.ams.usda.gov/nop/

- Each year, NOP reviews and consolidates data from individual Excel sheets submitted by certifying agents.
- We continue to improve data quality and structure…. But we are limited by process and format.

	Ref#	Certifying Agent	Operations	Certificate No.	Primary Scope	Secondary Scope	State	Country	ProductsProduced
		[All]			[All]	[All]		[All]	
+	11139	A Bee Organic	Nature's Organics, LLC	113051	Handling		Arizona	United States	body care products
+	11466	A Bee Organic	Champion Seed Company, Inc.	111961	Handling		California	United States	assorted vegetable seeds
+	11692	A Bee Organic	Tasty Plus Foods	112981	Handling		California	United States	noodles
+	11921	A Bee Organic	Mountain Meadow Organics	103131	Crops		California	United States	blood orange, persimmon
+	11909	A Bee Organic	Go Green Agriculture Organic	102721	Crops		California	United States	herbs, lettuce
+	11910	A Bee Organic	Kookie Karma	112271	Handling		California	United States	cookies
+	12004	A Bee Organic	Rainbow Valley Orchard Sales, Inc.	103491	Handling		California	United States	trader- assorted fruits and vegetables
+	12005	A Bee Organic	Nev Hills Farms, Inc.	113641	Crops		California	United States	avocado
+	12006	A Bee Organic	Davis Lemon Groves	111531	Crops		California	United States	lemon
+	12096	A Bee Organic	MVP Properties	113342	Crops		California	United States	avocado, cherimoya, dragonfruit, guava, lemon, mango, passion fruit, persimmon,
+	12314	A Bee Organic	E W Packaging	112231	Handling		California	United States	assorted private label packaged products
+	12318	A Bee Organic	Parcel 53 Ag, LLC	112651	Crops		California	United States	apple, apricot, avocado, blueberries, cherry- surinam, fig, grapefruit, guava, lemon, lime, macadamia, mandarin, nectarine, orange, peach, pear, persimmon, ,pomegranate, plum, tangelo, tangerine

Vision: The Organic Integrity Database

The National Organic Program is responsible for the integrity of the USDA organic seal. The 2014 Farm Bill provided $5-million funding for technology investments for the National Organic Program (to be used between 2014-2018).

The Organic Integrity Database is envisioned as a modernized certified organic operations database that will:

- Contain up-to-date and accurate information, deterring fraud
- Increase supply chain transparency
- Promote market visibility for organic operations
- Reduce certifier reporting burden

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Business Case for Modernized System

- Deter fraud by providing real time accurate information about operations licensed to use the USDA organic seal
- Reduce hundreds of phone calls from buyers, consumers, other certifiers to NOP and our 80 certifiers to confirm an operator's current certification status
- Enable market research and supply chain connections between buyers and sellers of organic goods (increase market visibility)
- Support international trading partner data needs: verification of operator status to support import/export certificates
- Establish technology connections with certifiers that will reduce reporting burden while providing more accurate and timely data
- Increase pressure on suspended and revoked operations to stop marketing as organic, and increase NOP's oversight reach over these operations

User and Beneficiaries: Overview

- **Certifiers**: Primary data providers and consumers. 81 organizations certifying over 25,000 organic operators. Will provide data to and change data in the system, and use to it to check on status of other operations.

- **NOP**: Also a primary data provider and consumer. 50+ staff will use database for compliance and enforcement activities, research to support rulemaking, and for reporting. NOP staff will be data providers when taking adverse actions directly against operations.

- **Trade, Industry, International Partners, Public**: Primarily data consumers that will access data in the system to support market analysis, to check the certification status of operators, and to find supply chain partners (suppliers, customers)

Certifiers: Primary Data Providers and Users

- Certifying agents ("certifiers"): Independent third party organizations that are accredited by the USDA to certify organic operations, and maintain comprehensive information about certified organic operations.
- Certifiers are highly diverse and include State Departments of Ag, non-profits, and small and large businesses. The largest certifiers may have 100+ employees; the smallest may have fewer than 5 full time employees.
- As of September 2014, there are 81 certifier organizations. The largest 15 certifiers certify more than half of the 25,000 certified organic operations.
- Certifiers are also diverse in their use of technology. Several use the off-the-shelf certification system "E-Cert." Others have in-house systems, or Access/Excel or FileMaker Pro tools.
- Some certifiers are accredited to administer multiple certification programs, and manage them all in a single management system. This has implications for how data may be extracted and reported to the NOP.
- Certifiers issue operator certificates to document an operator's status as a certified operation. Certificates are the primary artifacts that document an operation's organic status; they vary greatly across certifiers; and alteration/fraudulent changes do occur.

NOP: Data Provider and Users

- The NOP accredits and oversees certifiers, and will monitor and use data entered by certifiers into the system.
- NOP may also issue notices of suspension or revocation directly to certified operations as a result of compliance and enforcement activities.
- The NOP is also responsible for evaluating reinstatement requests for operations that have had their certifications suspended. Reinstatement leads to certifiers creating a change in an operation's status from "suspended" to "certified."
- The NOP also has extensive reporting responsibilities, including counts of certified operations at specific points of a year, growth in operators over time, counts of operations by certifiers and States, address lists of operations to support cost share program, and other variables.

General Public and Trade: Beneficiaries

- The general public, including industry and trade stakeholders and international partners, access the list of certified operations on the NOP website without login (free and open access).
- Common searches include looking to see whether a particular operator is certified, searching for operators in a particular state, and searching for operators that produce a particular product.
- Additional information about operations would be useful in conducting research about operations – to support trade market research, and to support rulemaking activities.

Business Needs: Building and Maintaining a Living List

- Examples of ongoing data changes to capture:
  - When an operation receives initial certification, it should be added to the list by the certifier.
  - If an operation is suspended or revoked by a certifier or the NOP, or as a result of an Appeals decision or settlement, the operation would be reclassified as suspended or revoked.
  - If an operation is reinstated by the NOP, the operation should be reclassified as a certified operation.
  - At the annual inspection, an operator adds a location, scope, or products – how does that information get into the system?
  - What happens when an operator surrenders? Do we want to have a category for "surrendered," or would these operations be removed from the system? Do operations stay on the list?
- System design must determine: (1) who does what in the database to enter, update, and approve changes; and (2) how data changes over time are tracked, maintained, and archived.

Business Needs:
More About Certificates

- Certified operations may hold multiple organic certificates that cover different business units and different scopes, such as crops, wild crops, livestock, or handing. Many operations hold multiple certificates (e.g., livestock AND handling).
- Some certifiers provide one certificate across scopes; others provide certificates for each scope. Some certifiers provide separate certificates for specific product lines or brands within a single operation.
- Additional scopes may be added over time, such as apiculture and aquaculture. As such, the list of scopes, and scopes held by an operator, must be changeable over time.
- All certified operations must undergo annual inspections and documentation updates to remain certified. Different certifiers handle renewal and "expiration" dates differently on certificates.
- In the past, some certifiers have allowed sub-certificates, or "umbrella systems" – allowing subcontracting operators to operate under another operator's certificate. This has led to inconsistencies between NOP's list of operations and the certifiers' lists. NOP 4009 was published in 2014 to, in part, address this concern.

Business Needs:
More About Commodity Lists

- Certifiers classify and report certified products in their annual list of certified operations. Current list provides one open text, free form field to capture products.
- Different certifiers maintain and report these products differently. For example, one certifier may list an operator's products as "dairy" and/or "poultry," whereas another may list the products as "milk, cheese" and/or "chickens" or "broilers." This makes searches more difficult for users of the posted data, and, given that the field is free-format, spelling error prone.
- To be most useful for the organic trade and for the public, there must be common use of the term "certified operation," and allow for reporting products in a structured format using a defined taxonomy.
- Candidates taxonomies are being identified during the analysis phase of the project (sources: USDA/NASS, international trade and/or industry groups, existing certification systems).

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Key Capabilities for a New System

- Capture all elements in the current NOP list of operations
- Track operations and their changes in certification information and status over time
- Reflect a complete list of all operations covered by NOP 4009 (NOP list = certifier list)
- Structured fields for commodities, plus free form field
- Enable certifying agents to update data manually, in batch uploads, or connect using APIs/web services in real time
- Permissions management to allow NOP staff, certifying agents, and the public to appropriately see and/or edit data
- Mapping capabilities to locate operations
- Reporting module (operation counts, distribution)
- OPTIONAL certificate generation module

Hypothesized Architecture

- **Browser-Based Web Tool:** Sophisticated permissions
- **Multiple User Groups with Granular Access Rights:**
  - Certifiers must have controlled access to edit data for their own operations, but “view only” rights for others.
  - Public version of data with no login needed
  - NOP must have super-rights for administration, account management
- **Current Hypothesis:** AMS as an agency is on a Microsoft platform and toolset. As such, starting point is to test Microsoft CRM Solution hosted in USDA DMZ or Cloud, with E-authentication for Certifier User Base (individual accounts for individual users)

Initial Design/Development Priorities

- Demonstrate feasibility of Microsoft CRM tool to manage current list of certified operations. AMS is setting up a proof-of-concept sandbox to test and learn more about different capabilities (data entry, uploads, reporting, audit trails, etc.).
- Identify requirements related to **database fields and data governance**:
  - Common definition of an operation as per NOP 4009.
  - Temporal tracking: how and what do we need to track, maintain, display, and archive for viewing/tracking across time as operators: (1) **change status** (get certified, surrender, change certifiers, are suspended, reinstated, revoked, etc.); and (2) **change information** (address – single/multiple field locations, name, products)
  - Scope expansion over time, shifts in scope certification
  - Commodity list management (i.e.: is there a taxonomy that could work across most certifiers, if a free form field were also allowed)
  - Minimum criteria for an optional certificate generation module that would be useful to certifiers; template for a standard certificate.

Initial Design/Development Priorities

- Identify requirements and options related to **data exchange**:
  - What data export/exchange formats would be needed to facilitate certifier feeding of data to the NOP easily and regularly.
  - How would the data exchange occur given AMS target architecture and security requirements.
  - What systems are already being fed to/from that NOP should take advantage of (e.g., other country systems, “Check Organic”)

- Identify requirements related to **permissions and access:**
  - Account management for certifier representatives; segmentation of data to allow certifiers to edit their own records and view others.
  - Permissions and roles for different system actors to do data entry/upload, editing, commitment, reporting: Certifiers, NOP staff, automated system activities, administrators.
  - Identify database actions that require validation/approval before posting, versus automated “push to publish” steps.

Other Considerations

- **Geocoding.** System shall integrate a location identification/ mapping function that allows the visualization of certified operation information in geographic-based views (e.g., see information about different operations on a Google map).

- **Audit Trail.** System shall integrate an audit trail so that certifier and NOP/Appeals users can see who made the most recent change to a record.

- **Historical Records Management.** System shall have a "snapshot in time" capability with specific snapshots at the end of fiscal year and end of the calendar year, so that future time-specific searches can be conducted and analyzed (e.g., we need to be able to compare snapshot of data at end of FY 2013 versus the end of FY 2014).

Delayed/Deferred Capabilities

- Uploading adverse action information (beyond status change itself) – Certifier Notices
- Integrating lists of operations covered by recognition agreements
- Export certificates

Not on the Current Development List:

- Accreditation management database
- Complaint management
- Tracking operators under equivalency agreements
- Tracking acreage and herd counts

Planning Ahead for Operations and Maintenance

- **Account Governance** – People, processes, and tools to assign and approve new accounts, remove users that change roles, and manage permission levels.
- **End User Support and Training** – People, processes, and tools to introduce new users to the system over time, including initial training, end user support for questions or problems or to correct errors, and any ongoing training.
- **Ongoing Support (e.g., Database Maintenance and Backups)** – Regardless of scope, the system will require regular maintenance activities, back-ups, and other technical administrative activities. The people and processes required for these roles must be considered in the design of the system.
- **Future Application Changes and Configuration Management** – As any new system is used and as underlying business processes change, user-oriented content and configuration changes to the system (such as data entry field changes and/or reporting changes) will be required. These changes go beyond baseline technical maintenance activities, and must be planned for.
- **Licensing** – There are 4 types of users in the system: (1) full access (read-write) users in NOP; (2) certifier users which must have partitioned access to modify data in the system for their certified operations; (3) public consumers of publically posted data (ability to search data without a login and without tracking use. (4) technical administrators and/or power users to administer and configure the system. The licensing model associated with any software solution must be considered in planning the system.

Key Points for Community

- The Organic Integrity Database is NOT designed to replace existing certification systems that certifiers like and that are working well.
- It may provide a new and useful tool for smaller certifiers that do not have system capabilities and do not plan to invest in them.
- Our goal is to build a system that exchanges data with existing systems so that certifiers will want to use it to ensure that their clients' most current status is available to the trade and the public through the NOP.
- We plan to engage certifiers in design, development, and testing – every step of the way.

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Project Work To Date

- Needs Assessment and Business Requirements Document was posted in 2013 on the NOP Website.
- Funding was provided for in the 2014 Farm Bill
- Activities in 2014 have included:
  - Hiring a full-time IT project manager
  - Convening a certifier user group (18 diverse certifiers)
  - Meeting with existing vendors with expertise in organic certification system development
  - Developing a list of key priorities, requirements, project timeline, and contracting strategy

Acquisition Strategy Priorities

- Critical Success Factors for a “Show Me” User Base: Must have early engagement of certifiers; early deployment “win.”
- Agile development and deployment model with iterative design spins once concept is proven.
- Domain and process expertise will be as important as the technology expertise.
- Minimize long-term reliance on contractor staff for operations and maintenance.
- Minimize operations and maintenance expenses where feasible given one-time nature of funding.

Approximate Timeline

- **October/November 2014** - Vendor and stakeholder meetings; market research.
- **November 2014** – Acquisition Strategy Development; Develop Proof-of-Concept/Test Bed using existing data
- **December 2014/February 2015** - Contracting Phase
- **March 2015** - System Requirements Kick-off, Phase 1 – User stories and data requirements
- **May 2015** - System Development Kick-off, Phase 2 – Sprint Development
- **September 2015** – Initial System deployment

Closing Thought….

- **A CIO once said: “Systems don’t talk to each other because people don’t talk with each other.” Systems development efforts hinge as much on process and people as the technology. Organic Integrity Database planning is being done with an eye to this reality.**

- **For More:** Modernized Certified Organic Operations Database: Needs Assessment and Business Requirements Analysis (2013) http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5103061